
LEVEL OF PREPAREDNESS OF NURSES ABOUT DISASTER MANAGEMENT IN A TERTIARY HEALTH INSTITUTION IN NORTH WEST NIGERIA

BY

Emmanuel Ejembi Anyebe: Department of Nursing Sciences, Faculty of Clinical Sciences, University of Ilorin, Nigeria

Simeon K. Olubiye: Department of Nursing Sciences, Faculty of Clinical Sciences, University of Ilorin, Nigeria

Adewumi Segun Igbinlade: Department of Nursing Science, Faculty of Health Sciences, National Open University of Nigeria, Abuja, Nigeria

Sarah Kofoworade Olufemi: Department of Nursing Services, Ahmadu Bello University Teaching Hospital, Zaria, Nigeria

Hadiza Lawal: School of Post-basic Nursing Programmes, Ahmadu Bello University Teaching Hospital, Zaria, Nigeria

&

Jibril, N. Umar: Department of Nursing Sciences, Faculty of Clinical Sciences, University of Ilorin, Nigeria;

Correspondence E-mail: ejembianyebe@gmail.com

Abstract

Disasters are unpredictable events killing and affecting people destroy properties and disrupt environment. In such situations, Nurses vital role in treatment and rehabilitation is crucial. Hence, disaster preparation by nurses becomes eminent. This study aims at assessing the knowledge, attitude and level of preparedness of Ahmadu Bello University Teaching Hospital Nurse in events of disaster. A descriptive cross sectional survey with 338 respondents selected by convenience and stratified sampling. Data collected using a self-constructed open and close ended questionnaire. Data was analysed using simple descriptive tables and charts. Findings showed that nurses' knowledge on disaster and its management is poor. However, a positive attitude was observed and the level of disaster preparedness was low but high desire for disaster training and skills was found. Following this, it was recommended that nurses need training on disaster management and preparedness to promote knowledge and enable them actively and effectively participate in disaster management.

Keywords: Knowledge, Attitude, Disaster Preparedness, Disaster Management, Zaria

Introduction

According to the World Health Organisation (1995), disaster is any occurrence that causes damage, ecological disruption, loss of human life, deterioration of health and health services in a scale sufficient to warrant an extra ordinary response from outside the affected community or area. In the same vein, the Pan African Health Organization (1980) views disaster as an overwhelming ecological disruption occurring on a scale sufficient to require outside assistance. Disaster is of global interest, it can either be natural or man-made, rendering entire city, people homeless. It ranges from earthquakes, eruptions, hurricanes, floods, fire outbreak, plane crash, collapsed building, disease epidemic among others (Brown, 2006). It is obvious that disaster is on the increase in recent times. Summarizing the major environmental disasters in Nigeria from 1980-2010, Mohammed (2013) reported that there have been 94 events with 21,002 deaths and 6,306,441 people affected. Hence, prevention, control and management of disaster are imperative.

Several reports on disaster have shown that its management requires a multidimensional, multi-sectoral and multidisciplinary approach, involving the coordination and integration of all activities necessary to build, sustain and improve the capabilities to prepare for, protect against, respond to and recover from threatening or actual natural or human induced disasters (FEMA, 2006). Therefore, investing resources to ensure that disasters do not occur and if it does occur, the impact be minimized and damages done is reconstructed while the affected be rehabilitated urgently to a normal state of wellbeing. Disaster management has been viewed to have four components: mitigation, preparedness, response and recovery. Mitigations are specific measures designed to reduce the impact of disasters. This includes forms of structures, laws and regulations, as well as enforcement of planning regulations or buildings and safety codes as well as necessary hazards warnings. On the other hand, preparedness includes measures aimed at quick response to effective disaster interventions. It encloses prediction of warning signs as well as evacuation/vacation of predicted disaster sites. International Federation of the Red Cross (IFRC, 2000) have documented that disaster preparedness is a wide range of pre-disaster programmes aimed at strengthening personnel's capabilities, enhance technical and managerial efforts. Similarly, Ndie (2014) documented advocacy, capacity building, care/counseling, case management, communication, consultation, surveillance and collaboration as some of the functions of a public health nurse.

Response are measures taken during and immediately after a disaster impact to save lives, protect properties and provide emergency care to victims as well as providing temporary shelter. Response direct activities that provide short term direct effects on accidents. Garbult, Peltier and Fitzpatrick (2008) concluded in a study that one of the issues influencing nursing response to disaster situations is lack of research and poor understanding of nurses' expectation during disaster. Recovery deals with the process by which a disaster stricken area returns to its pre-disaster state. They are efforts made to build back and better restore normal functioning of affected community.

From the foregoing, it is obvious that nurses have a stake in disaster management; however, knowledge of the specific roles of nurses in disaster management appears scantily documented. The unique function of the nurse in prevention, promotion, treatment and rehabilitation has embraced the disaster management cycle (Ibrahim, 2014). In addition, team work and effective communication among team members is crucial (Owolabi and Ekechi, 2014) and disaster management team should put in place staff adequately equipped (Saka, Oshagbemi, Saka, and Yusuf, 2012). Following this, this study focuses on assessing to what extent are Nurses in Ahmadu Bello University Teaching Hospital (ABUTH) Zaria knowledgeable about and prepared for disaster management. Their attitude towards disaster management is also assessed. This study was further guided by the following research questions: what is the Knowledge of nurses about disaster and its management? What is their attitude towards disaster management? How prepared are nurses for disaster?

Methodology

A cross sectional descriptive survey design was used to assess the knowledge, attitude and the level of preparedness of ABUTH Nurses on disaster and its management. All Nurses in the hospital form the target population, of which a sample size of 340 was drawn using a combination of stratified and convenience sampling to select the units and respondents respectively. Data were collected using a self-constructed, researcher-administered questionnaire. The questionnaire consisted of four sections: Section A on respondent's socio-demographic data made up of nine items; Section B consisting six items with "yes" or "no" responses on the knowledge of disaster and its management; Section C had four questions requiring responses as "agreed", "neutral" or "disagree" on the attitude of nurses towards disaster events, while Section D also had four items with "yes" or "no" responses focusing the level of nurses' preparedness in disaster respectively. The first author and some assistants administered the instruments after it was validated and pretested. A total of 338 questionnaires were retrieved and analysed descriptively, using SPSS Version 21.0. An ethical clearance was obtained from Health Research Ethical Committee of the Hospital. Participation was voluntary and confidentiality and anonymity of the respondents were ensured.

Results

Respondents' Socio-demographic characteristics

As shown in Table 1a, the socio-demographic characteristics of the nurses indicate that majority are females (n=235; 69.5%) within ages 30 – 39 years (n=173; 51.2%), married (n=281; 83.1%), and Christians ((n=250; 74%). Their educational profile showed that 32.2% of them have a first degree in nursing (BScN or BNSc).

Table 1a: Socio-demographic characteristics of Respondents

Variables	Frequency (N-338)	Percentages (%)
Age (in years)		
20-29	110	32.5
30-39	173	51.2
40-49	55	16.3
Gender		
Male	103	30.5
Female	235	69.5
Marital status		
Single	57	16.9
Married	281	83.1
Religion		
Christianity	250	74.0
Islam	88	26.0
Education attainment		
Diploma	137	40.5
BNSc	109	32.2
Master degree	4	1.2
No response	88	26.0
Ethnic group		
Hausa	84	24.9
Yoruba	65	19.2
Igbo	106	31.4
Others	83	24.5

Table 1b below shows the various cadres of respondents including Chief Nursing Officers (n=80; 23.7%) and few Principal Nursing Officers (n=18; 5.3%). Their areas of specialty and units are presented: majority (N=86; 25.4%) work in surgical unit, 56 (16.6%) work in Paediatric units while 12 (3.6%) work in Anaesthesia unit, among others.

Table 1b: Socio-demographic characteristics of respondents

Variables	Frequency (N-338)	Percentages (%)
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Present Rank		
Staff Nurse	35	10.4
Staff Nurse/Midwife	51	15.1
Nursing Officer	71	21.0
Senior Nursing Officer	38	11.2
Principal Nursing Officer	18	5.3
Assistant Chief Nursing Officer	45	13.3
Chief Nursing Officer	80	23.7
Area of Specialization		
Midwife	89	26.3
Paediatrics	44	13.0
Public Health Nurse	30	8.8
Ophthalmic	59	17.5
No response	116	34.3
Unit of Practice		
Paediatrics	56	16.6
Clinics	49	14.5
Obstetrics & Gynaecology	35	10.4
Surgical Ward	86	25.4
Medical Ward	46	13.6
Psychiatry	15	4.4
Anaesthesia	12	3.6
Accident & Emergency	39	11.5

Knowledge of Disaster and its Management

Table 2 presents the assessment of the knowledge of the nurses in ABUTH on disaster and its management: only 37.8% (n=128) have good to excellent knowledge of what disaster is; majority (n=189; 55.9%) has fair knowledge and while 21 (6.3%) had poor knowledge. Also, few (n=44; 13%) fully understand what disaster management entails, majority (n=194; 57%) partly understand disaster management and some (n=100; 29.6%) do not understand what disaster management entails.

Table 2: Awareness and Knowledge of Disaster and Management

Variables	Frequency (N-338)	Percentages (%)
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What do you understand by disaster		
Fully correct response	128	37.8
Partially correct response	189	55.9
Incorrect response	21	6.3
What do you understand by disaster management		
Fully correct response	44	13.0
Partially correct response	194	57.4
Incorrect response	100	29.6
Component of disaster management		
Fully correct response	15	4.4
Partially correct response	194	124
Incorrect response	100	83.2
Knowledge of triage in disaster management		
Fully correct response	188	55.6
Partially correct response	67	19.8
Incorrect response	83	24.6
What do you understand by first responders in disaster management		
Fully correct response		
Partially correct response	136	55.6
Incorrect response	70	19.8
What do you understand by disaster simulations/drills		
Fully correct response	132	24.6
Partially correct response	65	40.2
Incorrect response	83	20.7
	190	26.3

On the component of disaster management, Table 2 also shows that very few (n=15; 4.4%) have correct complete information while majority (n=281; 83.2%) had incorrect information on the component of disaster management. Majority (n=188; 55.6%) are knowledgeable about triage in disaster management. Analyzing respondents understanding on of first responders in disaster management, many (n=136; 40.2%) have full knowledge of such, some (n=70; 20.7%) had partial knowledge while 132 (26.3%) had incorrect knowledge of first responders in disaster. On disaster simulations/drills, only few (19.2%) have good knowledge; majority (56.2%) had poor knowledge of the drills.

Attitude towards Disaster Management

Table 3 indicates a good number (n=277; 82%) strongly agreed that they need to learn about disaster management. Most (n=271; 80%) feels hospitals need to adequately prepare for disaster cases. Majority (n=289; 85.5%) of respondents opine that there is need for nurses in hospital settings to be trained on disaster management but few (N=49; 14.5%) have contrary opinion. Conduction of drills regularly in hospitals was strongly supported (87.3%).

Table 3: Nurses Attitude towards Disaster and Disaster Management

Variables	Frequency (N-338)	Percentages (%)
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I need to learn about disaster management			
Agreed	277	82.0	
Neutral	27	8.0	
Disagree	34	10.0	
Hospitals should be adequately prepared in case of disaster			
Agreed			
Neutral	271	80.0	
Disagree	49	14.5	
There is need for disaster training for nurses in hospital settings			
Agreed	18	5.5	
Neutral	289	85.5	
	49	14.5	
Need to conduct drills regularly in the hospital			
Agreed			
Neutral	295	87.3	
	43	12.7	

Level of disaster preparedness

As shown in Figure 1, majority (65.4%) of nurses in this study area have no practical experience of handling mass casualties; only 34.6% (n=117) have such practical experiences. A few (5.3%) have participated in disaster drills/simulations before while majority (94.4%) has never participated in such drills as shown in fig.2. Most respondents (84.6%) feels there should be specific roles for nurses in such management while a few (n=52; 15.4%) disagreed to such specific roles. Table 4 shows that many (n=251; 74.3%) have correct information on the roles of nurses in disaster management.

Fig 1: response on practical experiences in caring for mass casualties

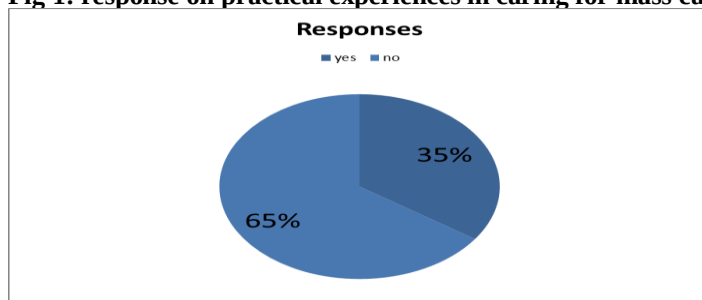


Fig. 2: participation in drills/simulation

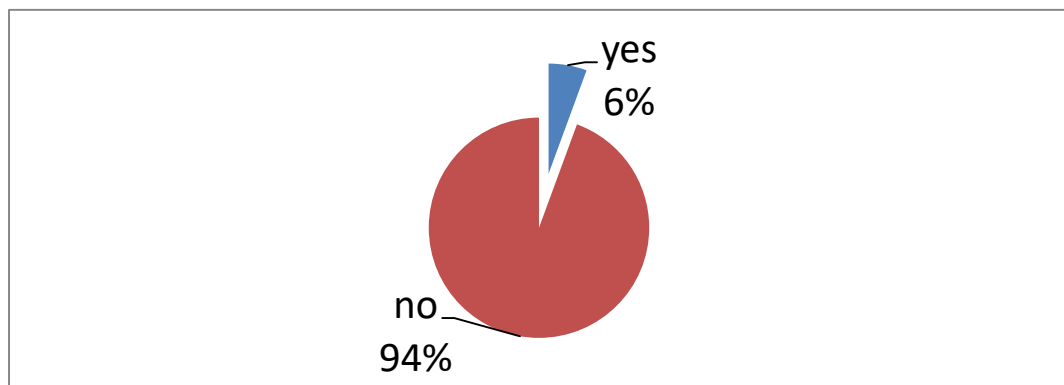


Table 4: Nurses Role in Disaster Management

Variables	Frequency (N-338)	Percentages (%)
Nurses need specific role in disaster management		
Agreed	286	84.6
Disagree	52	15.4
Nurses role in disaster management		
Correct response	251	74.3
Fair	72	21.3
Incorrect response	15	4.4

Discussion

The socio-demographic characteristics depict that respondents are mostly young adults, predominantly females and married. This is owing to the fact that the profession is female dominant. Educational attainment showed improvement in the nursing academic pursuit, with 32.2% having BNSc and 1.2% with master's degree; this suggests an improvement in career progression, the range of units justifies the cross-sectional view of nurses of nurses on disaster management in the study area.

Knowledge of ABUTH nurses in disaster and disaster management was low: only few (13%) had correct information on what disaster is; 13% had correct knowledge of disaster management and 4.4% knew the components of disaster management. This implies a general poor knowledge. This poor knowledge found are in keeping with Hammed, Arbon and Gebbie (2011) where he suggested that there is need for appropriate disaster education and training for Australian Nurses. Similarly, Buyum, Dubruiel, Torgherle, Alperin and Miner (2009) observed that nursing is challenged by the need to incorporate increasingly complex, diverse and cross cutting subjects like disaster management into its curriculum. However, majority have good understanding of triage in disaster.

The attitudinal perspective on disaster and its management explode was positive. There was readiness for improvement as majority (82%) see the need to learn about disaster management with most (80%) believing hospitals need to adequately prepare for disaster cases (see Table 3). In addition, the need for hospital nurses to be trained on disaster was raised by majority (85.5%) of respondents and conduction of drills was largely agreed upon. This finding suggests readiness of nurses in ABUTH to partake in disaster training programmes to promote capacity building. In line with this, Gebbi and Qureshi (2002) opined that nurses must be familiar with the needed core abilities to respond as an effective member of the response team and perform excellently.

Furthermore, the preparedness level of the respondents was poor as majority (65.4%) has no practical experience in dealing with mass casualties. Only a few (5.6%) have ever participated as depicted in figures 1 and 2 respectively. Respondents' opinion on the role of nurses in disaster management was diverse. However, majority (84.6%) thinks nurses need outlined specific role in disaster management.

Conclusion

Nurses in the study setting have poor knowledge and preparation on disaster and its management. However there is a strong desire and positive attitude towards disaster training and participation.

Recommendations

Following this, it is recommended that:

1. Nurses need training on disaster management and preparedness to promote knowledge and enable them actively and effectively participate in disaster management.

2. More disaster drills done periodically to keep nurses and other health care professionals is needed periodically.
3. More widespread study is also needed as this narrow scope of study cannot be generalized.

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